REMARKS

Reconsideration of this patent application is respectfully requested in view of the foregoing amendments, and the following remarks.

The amendments to the claims are as follows. Claim 1 is being amended to recite that each bus subscriber comprises a test circuit (24) to determine whether it is located at the bus end opposite of the control device. Support for this is found on Page 6 in the third paragraph of the Specification. New claim 8 recites that multiple data fields are sent simultaneously in a single data frame and at a time. Support for this is found throughout the present Specification and in claim 1.

On Page 3 of the Office Action, the Patent Examiner has rejected claims 1-7 under 35 U.S.C. 103(a) as being unpatentable over *Osakabe et al (U.S. Patent No. 5,448,562)* and *Tanaka et al (U.S. Patent No. 5,631,850)* in view of *Fuhrmann et al (U.S. Patent No. 7,583,692)*.

This rejection is respectfully traversed.

The present invention is directed to a system for transmitting data in a serial bidirectional bus with a control device comprising

a send and receiving unit for data fields combined into a data frame, and

with bus subscribers connected in series which comprise an evaluation circuit for reading in and reading out data fields in data frames,

wherein each bus subscriber (2, 3, 4) comprises a test circuit (24) to determine whether it is located at the bus end opposite of the control device,

with at least the bus subscriber at the bus end opposite of the control device comprising a send device for a data frame,

wherein at least the bus subscriber (4) at the end of the bus end comprises a control stage (13) which is activated by a received data frame (6) sent by the control device (1) over the serial bidirectional bus and triggers the send device (12) depending on the receipt of a data frame (6)

for sending a data frame (11) over the serial bidirectional bus in the direction of the control device (1) whereas the sent date frame (11) contains at least data fields (14, 15, 16) for all bus subscribers (2, 3, 4) and said data frame (11) is handed

over from one bus subscriber to the next bus subscriber.

It is respectfully submitted that *Fuhrmann* does not show the structure of a data frame at all. All that *Fuhrmann* discloses is that frames are sent at defined time slots, but in no way are multiple data frames sent simultaneously in a single message and in a single time slot. There is no basis for that in *Fuhrmann.*

With regard to the prior art, it is respectfully pointed out that *Tanaka* and *Osakabe* disclose a point-to-point communication, i.e. a data frame of *Tanaka* or *Osakabe* always contains an address field for addressing the destination of a message sent over the bus. The message is then sent from a sender to the addresses destination. Therefore, no one and especially not a person skilled in the art would ever assume that a data frame in *Tanaka* or *Osakabe* comprises data fields filled with data for or from each bus subscriber. This would simply be unreasonable and would inflate a data frame unnecessarily and would decrease the possible bandwidth of the data bus as only a single bus subscriber (the addressed one) would read the message. Hence, one skilled in the art would not assume something like that. Therefore it is not understood why the Office Action makes this

assumption and why it combines *Tanaka* and *Osakabe* with a third prior art reference that does not even show the features missing in *Tanaka* and *Osakabe*.

Amended claim 1 now claims that each bus subscriber comprises a test circuit to determine whether it is located at the end of the bus (see Page 6, the third paragraph of the Specification description of the preferred embodiment). In a conventional point-to-point communication system, as in *Tanaka* or *Osakabe*, there is not something like a "bus end", as a data frame is sent from a first bus subscriber to a second bus subscriber. The topology of such a bus is not defined and consequently, there is no defined start or end of the bus. Furthermore, in a point-to-point communication system there is no need to know which bus subscriber is located at the end of the bus as a communication is always between two defined subscribers (defined by their bus addresses).

According to the claimed invention, a data frame is sent from the bus start (control device) to the bus end (last bus subscriber of the serially connected bus subscribers) by handing over the data frame from one subscriber to the next one until the bus end is reached. The bus subscriber at the bus end then sends

back a data frame to the bus start, again by handing over the data frame from one subscriber to the next one until the bus start is reached. In this way, every bus subscriber may read and add data fields to the data frame (this is called a sum frame). Such a data transmitting system is not shown or suggested in any of the prior art references.

It is additionally pointed out that *Behr (US Patent No. 6,347 252)* discloses a data bus that employs so called sum frames, in which data of all bus subscribers are transmitted in a single data frame, as in the present invention. But the bus in *Behr* is not a serial bidirectional bus, but a cyclic bus that, as per definition, does not have a bus start or a bus end. All data frames in such a cyclic bus are sent in cycle and not to and fro between a start and an end.

The present invention has realized for the first time a data communication over a serial bidirectional data bus using sum frames. This is only possible in that the bus end is detected by the last bus subscriber, as is now claimed in claim 1.

For all the reasons set forth above, all the claims are patentable under 35 U.S.C. 103 over all the prior art applied by

the Patent Examiner. Withdrawal of this ground of rejection is respectfully requested.

A prompt notification of allowability is respectfully requested.

                              Respectfully submitted,
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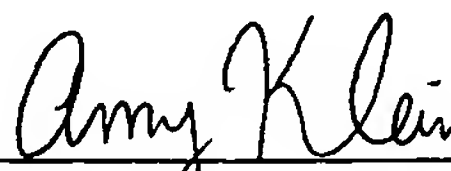(516) 365-9802

Enclosures: 1. Petition for 2 Month Extension of Time-Large
               Entity
            2. RCE Transmittal
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I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10, on the date indicated above, and is addressed to Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

                              Amy Klein